Evaluation Criteria for Health Information Infrastructure Solutions

William A. Yasnoff, MD, PhD, FACMI

Managing Partner, NHII Advisors

Outline

2

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I. NHII Requirements

- **Overall: "Anytime, anywhere health care information and decision support"**
- **Immediate availability of complete medical record (compiled from all sources) to any point-of-care**
- **Enable up-to-date decision support at any point of care**
- **Enable selective reporting (e.g. for public health)**
- **Enable use of tools to facilitate delivery of care (e.g. e-prescribing)**
- **Allow patients to control access to their information**

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II. Assumptions

- All stakeholders represented
- Commitment to improving care & reducing costs
- Willingness to collaborate
- Willingness to share data
- Commitment to resolving issues through discussion & compromise
- Tolerance for reasonable risk
- Access to information
- Access to expertise
- Willingness to pay reasonable fees for benefits delivered

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III. Framework for Evaluation

A. Are <u>requirements</u> met?
- o What are the requirements?
  - Specific
  - Understandable

B. Is it <u>feasible</u>?
- o Technical: Can it be built?
- o User Acceptance: Will it be used?

C. <u>Financing</u>
- o Initial cost
- o Sustainability

Evaluation Template - draft 1

- **Requirements**

- **Feasibility**

- **Financing**

A. Implementation Requirements

1. **<u>Privacy</u>**
   - o **Patient trust in system**
   - o **Patient control of records**
2. **<u>Transition</u> from paper records**
   - o **Most providers do not have EHRs**
   - o **Financial Incentives needed**
3. **<u>Access</u> to information**
4. **<u>Incremental</u>**
   - o **Start with small initial project**
   - o **Grow into comprehensive system**
5. **<u>Universal</u> availability**

A.1. Privacy

- **Need-to-know access must be assured**
- **Patients must trust the system to protect their information**
- **Patients need to control access to their information (direct or default)**

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Evaluation Template - draft 2

- **Requirements**
  - Privacy
    - Need-to-know access
    - Patient trust
    - Patient access control

- **Feasibility**

- **Financing**

A.2. Transition from paper records

- **Most records are paper at present**
- **Goal: conversion to electronic records**
- **Requirement: outpatient providers must have EHR systems**
  - **Small percentage now**
  - **Need financial incentives**
- **Requirement: availability of paper records during transition to electronic**

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Evaluation Template - draft 3

- **Requirements**
  - Privacy
    - Need-to-know access
    - Patient trust
    - Patient access control
  - Transition from paper records
    - Availability of paper records
    - Incentives for clinician EHRs

- **Feasibility**

- **Financing**

A.3. Access to Information

- **Requirement: health information must be accessible at point of care**
  - Typical solution: secure web portal
  - Requirement: Internet access
- **How does web portal information integrate with clinician EHR?**
  - Requirement: Integration of all patient information
  - Requirement: Standard encoding of all patient information for decision support
- **Access to population information**
  - Public health reporting
  - Medical research

Evaluation Template - draft 4

- **Requirements**
  - Privacy
    - Need-to-know access
    - Patient trust
    - Patient access control
  - Transition from paper records
    - Availability of paper records
    - Incentives for clinician EHRs
  - Access to information
    - Access at point-of-care
    - Integration of all patient info
    - Standard encoding of all patient info
    - Public health reporting
    - Availability of info for research

- **Feasibility**

- **Financing**

13

A.4. Incremental Steps

- **Possible initial projects**
  - **Laboratory result portal**
    - **Information already electronic**
    - **Can reduce duplicate labs**
  - **Medication portal**
    - **Information already electronic**
    - **Can reduce medication errors (including hospitalizations)**
  - **But then what???**
- **Requirements**
  - **Initial small project**
  - **Implementation plan for expansion**

Evaluation Template - draft 5

- **Requirements**
  - Privacy
    - Need-to-know access
    - Patient trust
    - Patient access control
  - Transition from paper records
    - Availability of paper records
    - Incentives for clinician EHRs
  - Access to information
    - Access at point-of-care
    - Integration of all patient info
    - Standard encoding of all patient info
    - Public health reporting
    - Availability of info for research
  - Incremental Steps
    - Initial small project
    - Expandable

- **Feasibility**

- **Financing**

A.5. Universal Availability

- **Availability to all patients**
  - **Initial project will not include entire population**
  - **Plan must encompass eventual participation by everyone**
  - **Requirement: allow universal participation**
- **Voluntary**
  - **Participation should be a choice**

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Evaluation Template - draft 6

- **Requirements**
  - **Privacy**
    - Need-to-know access
    - Patient trust
    - Patient access control
  - **Transition from paper records**
    - Availability of paper records
    - Incentives for clinician EHRs
  - **Access to information**
    - Access at point-of-care
    - Integration of all patient info
    - Standard encoding of all patient info
    - Public health reporting
    - Availability of info for research
  - **Incremental Steps**
    - Initial small project
    - Expandable
  - **Universal Availability**
    - Availability to all
    - Voluntary participation

- **Feasibility**
- **Financing**

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B. Feasibility

- **User Acceptance**
  - **Will it be used?**
  - **Does it provide net benefits? When?**
- **Stakeholder Acceptance**
  - **Absence of negative impact**
  - **Alignment with stakeholder needs**
- **Technical**
  - **Can it be done? (new or existing technology?)**
  - **Has it been done?**
  - **How long will it take?**

B.1. User Acceptance

- **Easy to use**
  - **Understandable**
  - **Can be customized**
- **Provides clear & immediate net benefits**
- **Compatible with existing workflow**
  - **Reasonable response time**

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Evaluation Template - draft 7

- **Requirements**
  - **Privacy**
    - Need-to-know access
    - Patient trust
    - Patient access control
  - **Transition from paper records**
    - Availability of paper records
    - Incentives for clinician EHRs
  - **Access to information**
    - Access at point-of-care
    - Integration of all patient info
    - Standard encoding of all patient info
    - Public health reporting
    - Availability of info for research
  - **Incremental Steps**
    - Initial small project
    - Expandable
  - **Universal Availability**
    - Availability to all
    - Voluntary participation

- **Feasibility**
  - **User Acceptance**
    - Easy to use
    - Clear & immediate benefits
    - Compatible with workflow

- **Financing**

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B.2. Stakeholder Acceptance

- **Provides benefits with real value to all stakeholders (ROI)**
  - **No negative impact**
  - **Supports goals**

Evaluation Template - draft 8

■ **Requirements**

- **Privacy**
  - Need-to-know access
  - Patient trust
  - Patient access control
- **Transition from paper records**
  - Availability of paper records
  - Incentives for clinician EHRs
- **Access to information**
  - Access at point-of-care
  - Integration of all patient info
  - Standard encoding of all patient info
  - Public health reporting
  - Availability of info for research
- **Incremental Steps**
  - Initial small project
  - Expandable
- **Universal Availability**
  - Availability to all
  - Voluntary participation

■ **Feasibility**

- **User Acceptance**
  - Easy to use
  - Clear & immediate benefits
  - Compatible with workflow
- **Stakeholder acceptance**
  - Provides real value (ROI)

■ **Financing**

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B.3. Technical Feasibility

- **Simple to implement**
- **Previous successful implementation**
  - **Buy vs. build**
- **Rapid deployment**
- **Simple to maintain**

Evaluation Template – draft 9

Requirements

- Privacy
  - Need-to-know access
  - Patient trust
  - Patient access control
- Transition from paper records
  - Availability of paper records
  - Incentives for clinician EHRs
- Access to information
  - Access at point-of-care
  - Integration of all patient info
  - Standard encoding of all patient info
  - Public health reporting
  - Availability of info for research
- Incremental Steps
  - Initial small project
  - Expandable
- Universal Availability
  - Availability to all
  - Voluntary participation

Feasibility

- User Acceptance
  - Easy to use
  - Clear & immediate benefits
  - Compatible with workflow
- Stakeholder acceptance
  - Provides real value (ROI)
- Technical
  - Simple to implement
  - Done successfully before
  - Rapid deployment
  - Simple to maintain

Financing

24

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C. Financing

- **Building the system**
  - **Initial cost**
  - **Who will pay?**
  - **Reliability of cost estimates**
- **Sustaining the system**
  - **Aligning payments with benefits**
  - **Likelihood of ongoing commitment**
  - **Potential for discord**

C.1. Building the System

- **Initial cost**
- **Sources of funding**
- **Reliability of cost estimates**

Evaluation Template - draft 10

- **Requirements**
  - Privacy
    - Need-to-know access
    - Patient trust
    - Patient access control
  - Transition from paper records
    - Availability of paper records
    - Incentives for clinician EHRs
  - Access to information
    - Access at point-of-care
    - Integration of all patient info
    - Standard encoding of all patient info
    - Public health reporting
    - Availability of info for research
  - Incremental Steps
    - Initial small project
    - Expandable to include all patient information
  - Universal Availability
    - Availability to all
    - Voluntary participation

- **Feasibility**
  - User Acceptance
    - Easy to use
    - Clear & immediate benefits
    - Compatible with workflow
  - Stakeholder acceptance
    - Provides real value (ROI)
  - Technical
    - Simple to implement
    - Done successfully before
    - Rapid deployment
    - Simple to maintain

- **Financing**
  - Building the System
    - Initial cost
    - Availability of funds
    - Reliability of cost estimates

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C.2. Sustaining the System

- **Ease of allocating costs**
- **Likelihood of continuing financial support**
- **Maintenance & operational costs**
- **Stability of initial financial model**

Evaluation Template - draft 10

- **Requirements**
  - Privacy
    - Need-to-know access
    - Patient trust
    - Patient access control
  - Transition from paper records
    - Availability of paper records
    - Incentives for clinician EHRs
  - Access to information
    - Access at point-of-care
    - Integration of all patient info
    - Standard encoding of all patient info
    - Public health reporting
    - Availability of info for research
  - Incremental Steps
    - Initial small project
    - Expandable
  - Universal Availability
    - Availability to all
    - Voluntary participation

- **Feasibility**
  - User Acceptance
    - Easy to use
    - Clear & immediate benefits
    - Compatible with workflow
  - Stakeholder acceptance
    - Provides real value (ROI)
  - Technical
    - Simple to implement
    - Done successfully before
    - Rapid deployment
    - Simple to maintain

- **Financing**
  - Building the System
    - Initial cost
    - Availability of funds
    - Reliability of cost estimates
  - Sustaining the System
    - Ease of allocating costs
    - Likelihood of continuing financial support
    - Maintenance & operations costs
    - Stability of financial model

29

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Evaluation Template - final draft

Requirements

- Privacy
  - Need-to-know access
  - Patient trust
  - Patient access control
- Transition from paper records
  - Availability of paper records
  - Incentives for clinician EHRs
- Access to information
  - Access at point-of-care
  - Integration of all patient info
  - Standard encoding of all patient info
  - Public health reporting
  - Availability of info for research & quality improvement & population management
  - Decision support for clinicians, consumers, and other users
- Incremental Steps
  - Initial small project
  - Expandable
- Universal Availability
  - Availability to all
  - Voluntary participation
- Facilitates communication among users

Feasibility

- User Acceptance
  - Easy to use
  - Clear & immediate benefits
  - Compatible with workflow & business systems
- Stakeholder acceptance
  - Provides real value (ROI)
- Technical
  - Simple to implement
  - Done successfully before
  - Rapid deployment
  - Simple to maintain

Financing

- Building the System
  - Initial cost
  - Availability of funds
  - Reliability of cost estimates
- Sustaining the System
  - Ease/fairness of allocating costs
  - Likelihood of continuing financial support
  - Maintenance & operations costs - adapt to new technology
  - Stability of financial model

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IV. Summary

- **Evaluation Framework for Assessing Implementation Options**
  - **Requirements**
  - **Feasibility**
  - **Financing**
- **Needs Additional Discussion and Review**
- **Useful to Compare Options**
- **Basis for Implementation Decisions**

Questions?

William A. Yasnoff, MD, PhD, FACMI
william.yasnoff@nhiiadvisors.com
703/527-5678